

Appendix G

SWMP Review Findings

EPA Comments to Bayamón's 2007 Stormwater Management Program

The U.S. Environmental Protection Agency (EPA) has performed a preliminary review of the Municipality of Bayamón's (Municipality) Storm Water Management Program (SWMP), submitted August 3, 2007. The Municipality's Municipal Separate Storm Sewer Systems (MS4) is covered under the 2006 National Pollutant Discharge Elimination System General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (Small MS4 General Permit).

In accordance with 40 Code of Federal Regulations (CFR) Part 122.34(a) and Section 4.1 of the Small MS4 General Permit, at a minimum, the Municipality must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from its MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA). The existing SWMP must include minimum control measures set forth in the Small MS4 General Permit. Implementation of BMPs consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to § 122.33, constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable."

EPA is aware that Bayamón has made and implemented changes to the existing SWMP that are not updated. EPA's preliminary review of the existing 2007 SWMP indicated the following deficiencies:

General

- The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedules established in the SWMP did not result in full implementation by this deadline.
- The SWMP must include a detailed description of the programs implementing each of the six minimum control measures (e.g., Illicit Discharge Detection and Elimination Program), not a statement of intent that the Municipality will develop the programs. The details of these programs must be adequately described, including, the identification of BMPs, measurable goal including milestones, the person(s) responsible for implementation and the rationale for the selection of these elements.
- The SWMP does not describe a formal coordinated program framework.
- The SWMP does not include a description of the necessary intradepartmental coordination.
- The SWMP does not include a description of program priorities and the rationale the Municipality used to decide on program priorities.
- The SWMP does not include a description of how the Municipality will evaluate the success (i.e., metrics) of each minimum control measure.

- The SWMP does not identify the receiving waters in Puerto Rico's CWA Section 303(d) list of impaired waters or the strategies to address pollutants of concern to meet the goals of the SWMP.
- The NOI/SWMP does not include a certification of whether the Municipality has met eligibility criteria for protection of threatened or endangered species, critical habitat, historic properties, and marine fisheries as required by Parts 1.3.5.4 and 2.2.1.5 of the Small MS4 General Permit.
- The SWMP does not include a description of the legal authority for the enforcement of ordinances identified in the SWMP.
- The SWMP does not include a flow chart, enforcement response plan or procedure that specifies a process by which fines can be levied and legal action taken against facility operators or business owner who violated storm water rules and ordinances.
- The SWMP does not include a description of the protocols the Municipality uses to ensure consistency, quality assurances and quality control of data generated or compiled through implementation of its SWMP.
- The SWMP does not include a description of program support and resources.

Impaired Waterbodies

- The SWMP does not identify the receiving waters on Puerto Rico's 303(d) list of impaired water or the strategies to address pollutants of concern to meet the goals of the SWMP. Section 2.2.2.2 of the Small MS4 General Permit requires the Municipality to identify the name of receiving waters on the last CWA §303(d) list of impaired waters and certify that the SWMP complies with the requirements of Section 3.1 of the Permit. Section 3.1.2 of the Small MS4 General Permit requires the Municipality to include a description of how the Municipality will control the discharge of pollutants of concern and ensure that its discharge will not cause or contribute to instream exceedances of water quality standards. This condition must be met for discharges to 303(d)-listed water even where no TMDL has been established. The Municipality must specifically identify measures and BMPs that will collectively control the discharge of pollutants of concern.
- The 2010 CWA Section 303(d) list indicates that receiving waters for discharges from the Municipality's MS4 are impaired. San Juan Bay is impaired for Fecal Coliform. Río Hondo is impaired for arsenic, ammonia, fecal coliform, low dissolved oxygen, selenium, other inorganic, surfactants (MBAS), and turbidity. Río Bayamón is impaired for fecal coliform, arsenic, copper, cyanide, lead, MBAS and turbidity. Note that many of the pollutants (fecal coliform, low dissolved oxygen, ammonia, and surfactants) are attributable to raw sewage discharges. <http://www.gobierno.pr/NR/exeres/19B75317-CA7C-4031-8D64-F580A5F899D7.htm>. Similar impairments were also indicated on previous biannual CWA Section 303(d) lists (2008 and 2006).

Public Education

In accordance with 40 CFR § 122.34(b)(1) and Section 4.2.1 of the Small MS4 General Permit, the Municipality must implement a public education program to distribute

educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution. The public education program should inform individuals and households about the problem and the steps they can take to reduce or prevent storm water pollution. The SWMP does not include an adequate description of the Municipality's public education program. The details of this program must be adequately described, including, the identification of BMPs, measurable goals including milestones, the persons responsible for implementation and the rationale for the selection of these elements.

- Part 5.1.1.2 of SWMP indicates that the Municipality will develop, produce and air five (5) radio public service announcement segments. The SWMP does not include assessment measures to evaluate the success of these announcements.
- Part 5.1.1.4 of SWMP state that the Municipality will develop an educational program to reduce the storm water pollutants including distribution of materials to schools. This program should be developed and adequately described in the SWMP. The SWMP does not indicate the schools within the municipality that will incorporate this education program nor it describes the strategy to achieve the minimum goal (50% of all grade school children to be educated every two years on storm water pollution issues) and whether there are any Memorandums of Understanding (MOUs) or other written agreements between the schools and the Municipality describing arrangements and responsibilities for meeting the goals of this BMP. The SWMP also does not describe how the Municipality will evaluate the effectiveness of this program.
- Part 5.1.1.5 of the SWMP describes the development, in partnership with local commercial entities in the area and the university's extension services, a lawn care education program. The Municipality does not identify the strategy or approach it will take to create this partnership, nor identifies the commercial entities and university's extension services or whether there is an MOU in place to ensure that the goal and criteria of this section are met. The SWMP also does not describe how the Municipality will evaluate the effectiveness of this program.
- Part 5.1.1.6 of the SWMP indicates that a community newsletter and a "toolbox" for education and outreach will be developed concerning storm water pollution issues. The SWMP does not identify the target audience, distribution area or the frequency or distribution method of the newsletter. The SWMP does not include a description of how the "toolbox" will be used, the frequency of use and measurable goals including the number of people reached with each tool. The SWMP does not include a description of how the Municipality will evaluate the effectiveness of the outreach strategy.
- Part 5.1.1.8 of the SWMP indicates that, in partnership with EPA and State Agencies, the Municipality will develop materials to promote storm water education and positive behaviors. The materials include pamphlets, booklets, and flyers. The SWMP does not include a description of how the Municipality will evaluate the effectiveness of this BMP.

- Part 5.1.1.9 of the SWMP states that the Municipality will develop an educational outreach program including the development of materials (i.e., videos, presentations, demonstrations, and models) for distribution and will establish a relationship with local schools. The SWMP does not include a description of the implementation of this partnership, including whether the educational outreach program will be integrated into the school's curriculum and whether an MOU or agreement has been established with the Department of Education. The SWMP does not specify the quantity and type of videos, presentations, demonstrations and models to be developed and identify a schedule for development of these materials. There is no mention of educational information on current conditions of impaired water bodies within the Municipality. The SWMP does not describe how the Municipality will evaluate the effectiveness of this BMP. Also, it is not clear how this BMP relates to the BMP in Part 5.1.1.4.
- The BMPs identified in this minimum control measure do not identify the pollutant sources the program is designed to address.
- Part 5.1.1.10 of the SWMP is missing.
- Part 5.1.1.11 of the SWMP defines the BMPs implementation schedule for public education. The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five (5) year schedule for this minimum control measure does not result in full implementation by this deadline.
 - The first year of the schedule indicates the development of educational pamphlets, booklets and flyers. The SWMP does not define the amount pamphlets, booklets, and flyers to be developed and the contents of these materials to be developed.
 - Measurable goal 5.1.1.5.1 indicates the sponsoring of an annual lawn care seminar. The schedule does not reflect the annual occurrence of this seminar.
 - Measurable goal 5.1.1.2.1 notes the number of segments aired each year related to the public service announcement. A review of the schedule only identifies such action on the first year of the schedule. Please revise appropriately to meet the SWMP requirement.

Public Involvement and Participation

In accordance with 40 CFR §122.34(b)(2) and Section 4.2.2 of the Small MS4 General Permit, the permittee must at a minimum, comply with State and local public notice requirements when implementing a public involvement/participation program. The SWMP does not include an adequate description of its initiative to involve the public in the planning and implementation of the storm water program. This program must be described in the SWMP in detail, including milestones, the person(s) responsible for implementation and the rationale for the selection of these elements.

- Part 5.1.2.2 of the SWMP establishes a community program involving labeling storm sewer drains and developing a map of the cleaned inlets. The SWMP does not adequately describe how the community will be involved in the implementation of this BMP including, whether the community will develop the stencil for labeling the drains, will label the drains, and will take part in cleaning the inlets or whether community will register the information of cleaned inlets for including on the map. The SWMP does not describe how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.2.2.1 describes the measurable goal for storm drain stenciling. The measurable goal is inadequate because it does not specify the number of catch basins or percentage of the catch basins within the Municipality that will be stenciled each year and if the Municipality will stencil 100% of the catch basins. Also, this section fails to specify the number of door hangers to be distributed. The relationship between door hangers and this BMP is unclear.
- There is a duplicate Part 5.1.2.2.1 which should read Part 5.1.2.3 – Best Management Practices – Annual Cleanup. This part of the SWMP promotes annual cleanups involving citizens and educating citizens on water pollution prevention as well as increasing citizen awareness of storm drains that discharge untreated flow to water bodies. The SWMP does not adequately describe the strategy for achieving the goal of this BMP. The SWMP does not describe how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.2.2.2 should read Part 5.1.2.3.1 in the SWMP and it does not indicate a minimum number or percentage of stream cleanups or stream miles cleaned.
- Part 5.1.2.3 of the SWMP should read Part 5.1.2.4. This part indicates that the Municipality will develop a volunteer monitoring program administered through the Planning Department. The SWMP does not include a description of the protocols for volunteers and the protocols for sampling and collection of data. The SWMP does not describe how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.2.3.1 of the SWMP should read Part 5.1.2.4.1.
- Part 5.1.2.4 of the SWMP should read Part 5.1.2.5. This part indicates that the Municipality will support local organizations that incorporate the ideas and resources of local governments, citizens, nonprofit environmental groups, and local universities into a single organization. Please clarify how the Municipality will support these organizations and describe how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.2.4.1 of the SWMP should read Part 5.1.2.5.1.

- Part 5.1.2.5 of the SWMP should read Part 5.1.2.6. This part indicates that the Municipality will develop an Attitude Survey. Please clarify the contents of this survey and describe how the Municipality will evaluate the effectiveness of this outreach strategy.
- Part 5.1.2.5.1 of the SWMP should read Part 5.1.2.6.1.
- Part 5.1.2.6 of the SWMP should read Part 5.1.2.7.
- Part 5.1.2.9.1 of the SWMP should read Part 5.1.2.7.1.
- Part 5.1.2.7 of the SWMP should read Part 5.1.2.8. This part defines the BMPs implementation schedule for public participation and involvement. The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedule for this minimum control measure does not result in full implementation by this deadline.
 - The first year of the schedule indicates the implementation of a baseline community attitude survey (Part 5.1.2.5 that should read Part 5.1.2.6). The schedule does not provide any timeframe for the development of this survey.
 - The schedule states that storm drain stenciling and annual cleanup program will continue in the first year. The schedule must include the development of a protocol for the stencil (Part 5.1.2.2) or cleanup program (Part 5.1.2.2.1 that should read Part 5.1.2.3).
 - The schedule indicates that in the first year, the Municipality will support volunteer monitoring. There is no indication when this volunteer monitoring program will be developed. Please establish timeframe for the development of the program and workgroup.
 - The second year of the schedule includes the implementation of a storm water hotline (Part 5.1.2.6 that should read Part 5.1.2.7). The schedule must include the development of a protocol for this hotline.
 - The third year of the schedule includes implementation of the Adopt-A-Park program (Part 5.1.2.3 that should read Part 5.1.2.4). There is no indication in the previous years that procedures were developed to implement such a program.
 - Implementation of the Municipality's support to local organizations is not included in the schedule.

Illicit Discharge Detection and Elimination (IDDE)

In accordance with 40 CFR §122.34(b)(3) and Section 4.2.3 of the Small MS4 General Permit, the Municipality must develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4. The Municipality must:

- (A) develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- (B) to the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
- (C) develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and
- (D) inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The Municipality must develop and implement an effective program to prohibit illicit discharges from entering the MS4. The prohibition of illicit discharges should be linked to legal authority to ensure proper enforcement. This legal authority can be included in public health and safety regulations, specific stormwater regulations, sewer use bylaws, local ordinance, or a combination of several parts of the code. This program must be included in the SWMP not a statement of intent that the Municipality will develop the program. The description of this program(s) must include the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation and the rationale for the selection of these elements.

- Part 5.1.3.2 of the SWMP requires that the Municipality develop a storm sewer system map that includes the location of water bodies, structural pollution control devices, conveyances of 24 inches or larger in diameter, and discharge points leaving the system. The map should also identify storm sewer inlets, the directional flows within the systems, and conditions of these structures. The map must include all outfalls and the names of locations of all waters of the United States that receive discharges from those outfalls. To be useful, these maps should also include the storm drain pipe network and catch basin locations, along with other relevant information such as, the location of storm water treatment facilities, watershed boundaries for each outfall and municipal facilities. Mapping of outfalls and drainage areas should be prioritized in order of their potential to be a source of illicit discharges. Ideally, this information would be managed in a database linked to a map to pipe sizes of 24 inches or larger. The map must be comprehensive and include all storm sewer lines that are part of the Bayamon MS4.
- The BMP identified above in this minimum control measure does not provide the rationale for the collection of data for conveyances of 24 inches or larger in diameter.
- Part 5.1.3.3 of the SWMP indicates that through ordinances and resolutions, the Municipality will prohibit non-storm water discharges into the storm sewer system. The Municipality has failed to identify the types of non-storm water discharges that will be prohibited. See Part 1.4 of the Small MS4 General Permit for more information on allowable non-storm water discharges. The SWMP does not include a description of the procedures the Municipality will use to enforce

these ordinances and resolutions. The SWMP does not describe how the Municipality will evaluate the effectiveness of this BMP.

This BMP should be modified to comport with the MS4 Program Evaluation Guidance http://www.epa.gov/npdes/pubs/ms4guide_withappendixa.pdf and include Codes or Ordinances which allow the Permittee to prohibit illicit discharges from commercial, industrial, or residential sources as well as an enforcement escalation policy. The enforcement escalation policy must describe the process for eliminating the source of an illicit discharge and for obtaining recourse or abatement if necessary, as well as identify the staff authorized to enforce the applicable ordinances and the enforcement mechanisms available to them.

- Part 5.1.3.4 of the SWMP requires the Municipality to educate public employees and commercial and industrial property owners on improper waste disposal and detection and elimination of illicit discharges. This BMP does not include a plan to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. The SWMP does not describe the method, protocols and corrective actions the Municipality intends to use and how the Municipality will track and measure progress for this BMP.
- Part 5.1.3.5 of the SWMP addresses the development of a program to detect, identify and eliminate illicit discharges. This program must be included and adequately described in the SWMP. The outline detailed in this section fails to establish or identify: the standard operating procedures (SOP) for detection and elimination of illicit discharges (including inspections and corrective actions the Municipality will take when illicit discharges are identified); regulatory mechanisms for enforcement; protocols for information gathering; priority setting and how the Municipality will evaluate the success of this BMP.

The Municipality must include in its SWMP written procedures for how it will locate, eliminate, and prevent illicit discharges to the MS4. The procedures must address both spills and illegal connections to the MS4; include procedures for field screening of non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources; be available to all staff responsible for responding to illicit discharges and include procedures for locating priority areas likely to have illicit discharges; address tracing the source of an illicit discharge and removing the source of the discharge; include a detailed summary of the departmental responsibility for field activities and a detailed description of the frequency of inspections, inspection procedures, inspection equipment, and documentation procedures for field activities.

- Part 5.1.3.5.1, the measurable goal for illicit discharge detection and elimination should include a goal of visually inspecting and sampling (in accordance with an SOP) a percentage of the storm sewer system such that all MS4 outfalls will be

monitored for illicit discharges by the permit expiration date of November 6, 2011, and include time frames and schedules for eliminating illicit discharges once they are detected.

- Part 5.1.3.6 of the SWMP states that through ordinances and resolutions, the Municipality shall prohibit illegal disposal of waste in un-permitted areas or into a storm drain system. This section states that the Municipality will develop and implement procedures, programs and actions to enforce developed ordinances. The SWMP does not include a detailed description of the program to detect, identify and eliminate illegal solid waste dumping. This description must include the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation, the rationale for the selection of these elements and how the Municipality will evaluate the effectiveness of this BMP.

Also, please clarify the Municipality's intentions with respect to the prohibition of illegal waste disposal in un-permitted areas. It is unclear whether the focus is on solid waste, wastewater or both. Please include a definition of "un-permitted area," a description of the penalty and enforcement mechanism, and the scope of the waste ordinances.

- Part 5.1.3.7 of the SWMP states that through ordinances and resolutions the Municipality shall prohibit unwarranted connection of a wastewater system to a storm drain system and develop procedures, programs and actions to enforce developed ordinances. The SWMP does not include a detailed description of the program to detect, identify and eliminate wastewater connections to the storm drain system. This description must include the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation, the rationale for the selection of these elements, and how the Municipality will evaluate the effectiveness of this BMP. Also, please clarify the type of wastewater that will be addressed by the ordinances including, wastewater discharges into the MS4 from residential buildings or urbanized developments. The SWMP should also include a program for smoke and dye testing to identify illicit connections to the MS4.
- Part 5.1.3.7.1 should include a measurable goal to eliminate identified illicit connections to the MS4 within a specified amount of time after the connection was identified, including the agreements with the Puerto Rico Aqueducts and Sewers Authority (PRASA).
- Part 5.1.3.8 of the SWMP state that through ordinances and resolutions the Municipality will develop and manage recreational sewage program from recreational outdoor activities, including boating and camping activities. The SWMP does not include a detailed description of the program to manage recreational sewage discharges, including the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation, the rationale for the selection of these elements, the regulatory mechanism available

to manage these discharges and how the Municipality will evaluate the effectiveness of this BMP.

- Part 5.1.3.9 of the SWMP indicates that policies for designing, screening and maintaining the sanitary system related to a program to detect and eliminate Sanitary Sewer Overflows, including strategies on enforcement of these policies will be developed. The SWMP does not include a detailed description of the program to detect and eliminate sanitary sewer overflows (SSOs), including the identification of BMPs (measures to identify SSOs that flow into the MS4 during both wet and dry weather and measures to eliminate those SSOs), measurable goals including milestones, the person(s) responsible for implementation, the rationale for the selection of these elements and how the Municipality will evaluate the effectiveness of this BMP. Please also describe what, if any, commitment/agreement the Municipality has with the Puerto Rico Aqueduct and Sewer Authority (PRASA) to address SSOs.
- The SWMP does not include a detailed description of the program to detect and eliminate failing septic systems, including the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation, the rationale for the selection of these elements and how the Municipality will evaluate the effectiveness of this BMP. The program should include the requirements of qualified personnel, the SOPs for carrying out field testing to identify failing septic tanks, alliances with other state agencies, and regulatory ordinance(s) to ensure effective implementation. Please also identify the location of all the septic systems on the storm water map and identify this as a measurable goal for this program in Part 5.1.3.10.1.
- Part 5.1.3.11 of the SWMP defines the BMPs implementation schedule for detection and elimination of illicit discharges and connections. The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedule for this minimum control measure does not result in full implementation by this deadline.
 - The schedule is not clear or missing the implementation of BMP 5.1.3.2, BMP 5.1.3.3 and BMP 5.1.3.9. Please address this matter in your response.

Construction Site Storm Water Runoff Control

In accordance with 40 CFR §122.34(b)(4) and Section 4.2.4 of the Small MS4 General Permit, the Municipality must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to its small MS4 from construction activities that result in a land disturbance greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in

your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The program must include the development and implementation of, at a minimum:

- (A) an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;
- (B) requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
- (C) requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- (D) procedures for site plan review which incorporate consideration of potential water quality impacts;
- (E) procedures for receipt and consideration of information submitted by the public, and
- (F) procedures for site inspection and enforcement of control measures.

This program must be described in the SWMP in detail, including, the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation, and the rationale for the selection of these elements.

- Part 5.1.4.2 and Part 5.1.4.3 of the SWMP states that the Municipality will develop ordinances or other regulatory mechanisms requiring erosion and sediment controls to construction sites of one-half acre or more and a program to control and eliminate construction site waste. Although erosion and sediment are often the primary contaminants at a typical construction site, there are many other contaminants associated with construction activities including, debris/garbage, paint, cement, oil and grease, discarded building material, concrete truck washout, litter and sanitary waste. The Municipality should assess these other contaminants through this BMP. The SWMP does not include a description of how the Municipality will ensure compliance with the erosion and sediment control ordinance or other regulatory mechanism, including the sanctions and enforcement mechanisms available.

The SWMP does not describe how the Municipality will identify sites that are greater than one-half acre and if a database of these sites will be developed. The SWMP does not describe the procedures for reviewing site plans to ensure the consideration of potential water quality impacts and how the Municipality will ensure that all sites that are one acre or greater and discharge to the MS4 have coverage under the EPA National Pollutant Discharge Elimination System General Permit for Discharges from Large and Small Construction Activities (Construction General Permit or CGP). An online database of permittees under the CGP and information on EPA's construction storm water program including construction storm water BMPs is available at

<http://cfpub.epa.gov/npdes/stormwater/const.cfm>. The SWMP does not identify

procedures for data management and procedures to track progress for implementation of this BMP.

- Part 5.1.4.4 of the SWMP addresses public participation in local construction activities. The SWMP does not include a description of the type of information that will be collected from the public and how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.4.5 of the SWMP addresses construction site inspection and enforcement. The SWMP does not describe the procedures for inspections and how the Municipality will evaluate the effectiveness of this BMP.
- Part 5.1.4.6 of the SWMP defines the BMP implementation schedule for construction site runoff control. The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedule established in the SWMP does not result in full implementation by this deadline.
 - The schedule is not clear or missing the implementation of BMP 5.1.4.3. Please include implementation of this BMP in this schedule.
 - The schedule should include a percentage of the construction sites and/or number of construction sites to be inspected each year for compliance with ordinances addressing storm water runoff and storm water BMPs at the site, as well as compliance with EPA and EQB construction storm water permits.
 - The schedule should include the development of a database of construction sites one-half acre or greater in the Municipality including site location, owner/operator information and mailing address, acreage of the site, and whether the site discharges to the MS4 or discharges directly to surface waters.
 - The implementation schedule states that the Municipality will fulfill maximum compliance with the ordinance. Please clarify what the Municipality means by “maximum compliance with the ordinance.”

Post-Construction Storm Water Management in New Development and Redevelopment

In accordance with 40 CFR §122.34(b)(5) and Section 4.2.5 of the Small MS4 General Permit, the Municipality must develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into its small MS4. The

program must ensure that controls are in place that would prevent or minimize water quality impacts. The Municipality must:

- (A) develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;
- (B) use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and
- (C) ensure adequate long-term operation and maintenance of BMPs.

This program must be described in the SWMP in detail, including, the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation and the rationale for the selection of these elements.

- Part 5.1.5.2 of the SWMP requires new developments to incorporate dry/wet extended detention ponds that will allow pollutants to settle and provide flood control by including additional capability of storage. The Municipality should identify the pollutants that will be reduced and clarify the approval process for the detention ponds as well as the design criteria and maintenance.
- Part 5.1.5.3, Part 5.1.5.4, Part 5.1.5.5 and Part 5.1.5.6 of the SWMP focus on structural practices including programs for porous pavement, wetlands, vegetated swales and runoff pretreatment practices. The SWMP does not describe these programs including design criteria, how these programs/practices will be implemented including operation and maintenance, the regulatory mechanism to ensure compliance, how the Municipality will involve the community and how the Municipality will evaluate the effectiveness of these programs/practices.
- Part 5.1.5.7 of the SWMP focuses on non-structural practices including a regional growth planning process, green parking techniques and alternative paver program. The SWMP does not describe these practices/programs, how they will be implemented including operation and maintenance, the regulatory mechanism to ensure compliance, how the Municipality will involve the community and how the Municipality will evaluate the effectiveness of these programs/practices.
- Part 5.1.5.8 of the SWMP indicates that the Municipality will develop an inspection and repair program to maintain the effectiveness of post-construction storm water control BMPs. The SWMP does not specify the type of post-construction storm water control BMPs for this program, nor does it include a description of how and how often the Municipality will carry-out inspections by qualified and/or trained personnel, the procedures and regulatory mechanism to ensure post-construction BMPs are implemented and the identification of personnel responsible for implementation of this BMP.

The SWMP does not include a procedure for identifying specific priority areas for this minimum control measure.

- Part 5.1.5.9 of the SWMP defines the BMPs implementation schedule for post-construction stormwater management in development and redevelopment. The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedule established in the SWMP does not result in full implementation by this deadline.
 - The first and second year of the schedule indicates the development and implementation of strategies for the BMPs, ordinances and construction standards for the BMP development. However, it does not provide to which BMP the strategies and ordinances are related. Please address this matter in your response.
 - The fifth year indicates the Municipality will enforce ordinances that are associated to the BMPs. This requires regulatory mechanisms to ensure consistent procedures. In addition, it is unclear to which specific ordinance it is to be enforced upon. Please clarify.

Pollution Prevention/Good Housekeeping for Municipal Operations

In accordance with 40 CFR §122.34(b)(6) and Section 4.2.6 of the Small MS4 General Permit, the Municipality must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the Commonwealth of Puerto Rico or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. This program must be described in the SWMP in detail, including, the identification of BMPs, measurable goals including milestones, the person(s) responsible for implementation and the rationale for the selection of these elements.

- The description in the minimum control measure introduces the elimination of a storm water pollution source from snow disposal activities. This activity in the SWMP is considered irrational for the tropical climate in Puerto Rico. The Municipality will need to revise this component within the description.
- Part 5.1.6 of the SWMP indicates that the Municipality will develop and implement programs including; control of pet waste; pollution prevention outreach and training directed to businesses and municipal fleets involved with vehicle maintenance; educating the public on washing vehicles outdoors; storm water impacts from landscaping and lawn care practices; management of pesticide application; pavement cleaning practices (street sweeping); management of pollutant loads from road surfaces; and inspection and cleaning of storm drains. The SWMP does not describe these programs in detail, including the identification of BMPs, measurable goals including milestones, the rationale for

the selection of these elements, the regulatory authority for implementation of these BMPs, intradepartmental coordination and training for these BMPs, a description of how these BMPs will be implemented, enforced and evaluated for success.

The SWMP does not identify the municipal operations that are impacted by this minimum control measure and the industrial facilities the Municipality owns or operates that are subject to EPA's Multi-Sector General Permit (MSGP) or individual NPDES permits for discharges of storm water associated with industrial activities that ultimately discharge to the MS4.

The Municipality identified in Part 5.6.1.2 a program for control of pet waste. The control of pet waste generally is not considered under good housekeeping for municipal operations. This would be best considered under Illicit Discharge Detection and Elimination (IDDE). Also, assuming that the program for storm water impacts from landscaping and lawn care practices is related to municipal operations, the Municipality must clarify its applicability. If not associated with municipal operation, it will be best to consider under the IDDE.

- Part 5.1.6.2.1.(g) only addresses catch basins at construction sites rather than all catch basins within the MS4. This goal must be measurable such as by identifying a certain percentage of the Municipality's catch basins and storm sewers that will be inspected each year. This goal should also include the identification of catch basins and storm sewers that require more frequent cleaning and a cleaning schedule for all catch basins and sewers.
- Part 5.1.6.3 of the SWMP does not describe how the Municipality will implement this BMP, a coordinated program framework or include continuous training requirements necessary for staff awareness and knowledge on control of hazardous material handling and storage. A training schedule for standard operation procedures should be identified and maintained.
- Part 5.1.6.4 of the SWMP defines the BMPs implementation schedule for pollution prevention and good housekeeping for municipal operations. . The Small MS4 General Permit requires that SWMPs be fully implemented by November 6, 2011. The Municipality submitted its SWMP on August 7, 2007. The five year schedule established in the SWMP does not result in full implementation by this deadline.
 - The first year indicates the development of strategies for structural and nonstructural management practices. This requirement has not been described. Include a detailed description on these strategies and clarify the implementation schedule.
 - The first year indicates the development of runoff enforcement ordinances. The second through the fifth year indicate implementation of runoff

enforcement ordinances. These actions have not been described. Include a detailed description of these BMPs.

- The implementation schedule is missing the implementation of several BMPs, including Parts 5.1.6.2 and 5.1.6.3. Please include these in the schedule.